

**CLAIMS:** We claim:

**1.** A vacuum cleaner nozzle for use on a surface to be cleaned, comprising:

a) a nozzle body adapted for accepting suction air from a vacuum cleaner, comprising an air channel with a forward air channel section and a rearward air channel section;

b) a cleaning strip adapted for sliding contact with a surface to be cleaned; wherein said forward air channel section is forward of the cleaning strip, and said rearward air channel section is rearward of the cleaning strip;

c) a valve means defined within said air channel and responsive to the forward and/or rearward motion of the nozzle body with respect to the surface to be cleaned, whereby the valve means substantially redirects suction air to the forward air channel section when the vacuum cleaner nozzle is moving forward, and substantially redirects suction air to the rearward air channel section when the vacuum cleaner nozzle is moving backward.

**2.** The vacuum cleaner nozzle in claim 1, wherein;

said valve means comprises a pivotal cleaning strip mounted within the air channel such that pivoting action of the cleaning strip substantially provides said valve means for redirecting suction air, wherein the pivoting action is provided by friction contact of the cleaning strip against the surface to be cleaned as the nozzle is moved forward and backward.

**3.** The vacuum cleaner nozzle in claim 1, wherein;

said cleaning strip mounted pivotally within said air channel and designed to interact with the surface to be cleaned; wherein friction between the cleaning strip and the surface to be cleaned during forward and backward movement of the nozzle is used to articulate the valve means.

**4.** The vacuum cleaner nozzle in claim 1, wherein;

said valve means comprises at least one friction wheel designed to substantially interact with the surface to be cleaned; wherein rolling motion of the friction wheel against the surface is used to articulate the valve means depending on the direction of rotation of the friction wheel.

5. The vacuum cleaner nozzle in claim 1, wherein;

said cleaning strip acts as the valve means and is mounted on a linearly slide on the nozzle body to allow the cleaning strip to move linearly forward and rearward within said air channel, wherein interaction of the cleaning strip with the surface to be cleaned generates friction forces during forward and backward movement of the nozzle to move the cleaning strip and provide the valve means, whereby the cleaning strip acts as the valve means for substantially redirecting suction air to the forward air channel section when the vacuum cleaner nozzle is moving forward, and substantially redirects suction air to the rearward air channel section when the vacuum cleaner nozzle is moving backward.

6. The vacuum cleaner nozzle in claim 1, wherein;

said cleaning strip acts as the valve means and is mounted on to the nozzle body to allow both linearly and pivotal movement of the cleaning strip, whereby interaction of the cleaning strip with the surface to be cleaned generates friction forces during forward and backward movement of the nozzle to move the cleaning strip, whereby the cleaning strip acts as the valve means for substantially redirecting suction air to the forward air channel section when the vacuum cleaner nozzle is moving forward, and for substantially redirecting suction air to the rearward air channel section when the vacuum cleaner nozzle is moving backward.

7. A vacuum cleaner nozzle for use on a surface to be cleaned, comprising:

- a) a nozzle body adapted for accepting suction air from a vacuum cleaner;
- b) a cleaning strip adapted for sliding contact with a surface being cleaned;
- c) wherein said nozzle body defines an air channel with a front-side air channel and a back-side air channel, wherein said front-side air channel is in-front of said cleaning strip and said back-side air channel is behind said cleaning strip, wherein the air channels direct the suction air to said front-side and said rear-side;
- d) a valve means defined by said cleaning strip and said nozzle body for substantially closing-off suction air to said front-side air channel when a user is moving the nozzle backward along the surface being cleaned and substantially closing-off suction air to said back-side air channel when the user is moving the nozzle forward along the surface being cleaned, whereby

said suction air is diverted substantially to the side of the cleaning strip facing the direction of motion of the vacuum cleaner nozzle along the surface being cleaned.

8. The vacuum cleaner nozzle in claim 7, wherein said cleaning strip comprises a felt strip.

9. The vacuum cleaner nozzle in claim 7, wherein;  
said cleaning strip comprises a bristle brush strip.

10. The vacuum cleaner nozzle in claim 7, wherein;  
said cleaning strip is pivotally mounted to said nozzle body within said air channel and pivots to provide said valve means.

11. The vacuum cleaner nozzle in claim 7, wherein;  
said cleaning strip is linearly mounted to said nozzle body within said air channel, wherein the cleaning strip can move substantially linearly forward and backward within the air channel to provide said valve means.

12. The vacuum cleaner nozzle in claim 7, wherein;  
said cleaning strip is mounted both linearly and pivotally to said nozzle body within said air channel, wherein the cleaning strip can move substantially linearly forward and backward within the air channel and also move pivotally about an axis defined on the cleaning strip to provide said valve means.

13. The vacuum cleaner nozzle in claim 7, wherein;  
said cleaning strip is pivotally connected to said nozzle body and designed for sliding contact with said surface to be cleaned, wherein said nozzle body defines an elongated inverted u-shaped air channel with at least two bottom edges, wherein said cleaning strip is pivotally connected within said elongated inverted u-shaped air channel to provide said valve means, whereby said suction air can be diverted substantially to either said rear-side or to said front-side by the pivoting action of the cleaning strip.